

Work Order ID 63737

Friday, November 12, 2010 8:28:44 AM



Page 1

Item ID: D3943-053

Accept



Setup Start



Revision ID:

Stop



Item Name: Chain Assembly

Start Date: 11/12/2010 Start Qty: 5.00



Cust Item ID:

Required Date: 11/19/2010 Req'd Qty: 5.00



Customer:

Reference:

Approvals: Process Plan:

Date: 10/11/10 Tooling:

Date:

QC:

Date: SPC (Y/N):

Date:

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D3943	C								

100 Weld per dwg A/R Steel rod Batch: M104350 0.00



Large Fab

Memo 0.00

Large Fab

ASSEMBLE WITH CHAIN BEFORE WELDING

EL 11-4-13. RD

110 QC9- Inspect visual per QSI004- Fusion Welds 0.00



QC

Memo 0.00

Quality Control

PL 11-04-14

120 QC5- Inspect part completeness to step on W/O 0.00



QC

Memo 0.00

Quality Control

nl 11 04 14 (5)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 63737

Friday, November 12, 2010 8:28:44 AM



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Item ID:	D3943-053	Accept		Setup	Start	
Revision ID:					Stop	
Item Name:	Chain Assembly					
Start Date:	11/12/2010	Start Qty:	5.00		Cust Item ID:	
Required Date:	11/19/2010	Req'd Qty:	5.00		Customer:	
Reference:						

Approvals:	Process Plan:	Date:	Tooling:	Date:	Run	Start	
	QC:	Date:	SPC (Y/N):	Date:		Stop	

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130 Powdercoat Powder Coating	Hybrid safety Yellow 4.3.5.12 <i>Memo</i> 1- MASK CHAIN FROM THIS POINT ON PRIOR TO powdercoat AS PER DWG 2- POWDER COAT Start Time: <i>8:50</i> Oven Temperature: <i>320°</i> Finish Time: <i>9:20</i>	0.00 0.00				<i>5</i>		<i>BL 11-4-15.</i>	
140 QC Quality Control	QC3- Inspect Part Finish <i>Memo</i>	0.00 0.00				<i>5</i>	<i>φ</i>	<i>all uloc 15</i>	
150 Packaging Packaging	Identify as per dwg & Stock Location: <i>Wk</i> <i>Memo</i>	0.00 0.00				<i>12</i>		<i>11-4-15</i>	<i>(KB)</i>

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Page 3

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Item ID: D3943-053

Accept



Setup Start



Revision ID:

Stop



Item Name: Chain Assembly

Start Date: 11/12/2010 Start Qty: 5.00



Cust Item ID:

Required Date: 11/19/2010 Req'd Qty: 5.00



Customer:

Reference:

Run Start



Approvals:

Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Stop



QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

160

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

11/4/18

11/6/18

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Picklist Print

Friday, November 12, 2010 8:28:49 AM

Page 1

Work Order ID: 63737

Parent Item: D3943-053

Parent Item Name: Chain Assembly



Start Date: 11/12/2010

Required Date: 11/19/2010

Start Qty: 5.00

Required Qty: 5.00

Comments: IPP RevA: add DEO DD 09.11.18 verified by:JLM IPP Rev:B as per
dwg REV.C DD 10.02.22 verified by:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D3954-5		Manufactured	No			100	Each	2.0000	1	5			
Chain Lug													

B63740 x3

Location	Loc Qty	Loc Code
ST102	2	
55712	2	

EL 10-11-30

2

D3954-9		Manufactured	No			100	Each	18.0000	1	5			
GWT Chain Pin													

Location	Loc Qty	Loc Code
ST102	18	
52991	18	

EL 10-11-30

5

W/O:		WORK ORDER CHANGES					
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NOTE: Date & initial all entries

ITEM No.	QTY -041	QTY -051	QTY -053	PART NUMBER	DESCRIPTION	PREFERRED SUPPLIER
1	X			D3943-041	GROUND HANDLING CRANK ASSEMBLY	
5	1	X		D394 951	HANDLE ASSEMBLY	
6	1		X	D3943-053	CHAIN ASSEMBLY	
11		1		D3943-1	HANDLE	M/F HANDLE FROM DIS-ASSEMBLED ITEM 39
12	1			D3943-3	HANDLE EXTENSION	
13		1		D3943-5	PLATE	
14		2		D3943-7	STUD	
15			1	D3943-9	CHAIN	USE CHAIN SUPPLIED WITH ITEM 39
21	1			D2690-4	LANYARD	
22	1			D3585-1	SET SCREW	
23	1			D3949-041	REMOVE BEFORE FLIGHT FLAG	
24			1	D3954-5	CHAIN LUG	
25	1			D3954-7	RATCHET LUG	
26			1	D3954-9	GWT CHAIN PIN	
31	1			AN5-11A	BOLT	
32	1			AN960-516	WASHER	
33	1			MS21042L5	NUT	
39	1			8143919	LEVER CHAIN HOIST (POWER FIST)	PRINCESS AUTO / 4000 lbs CAPACITY
41	1			S-1475	SPRING	REID SUPPLY
42	1			3408A59	BALL PLUNGER	McMASTER CARR
43	1			HX-15	SOCKET HEAD CAP SCREW 1/4-20 UNC X 0.75 LG	HASKINS
44	1			HX-16	SOCKET HEAD CAP SCREW 1/4-20 UNC X 1.0 LG	HASKINS

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER

NO. 63737
P/10-11-12

RELEASED
2010-10-18
JWP

C	RMV FINISH -041 (ZN A8-2), ADD NEW FINISH -051/-053/-1/-3 (A8-3/-4/-5), ADD CALIBRATION (A8-2), (1) HX-16 WAS HX-15 (B3-1, C3-1), PAR 10-001	CP	10.01.26
B	SHT 1 FL, ITEM 31 WAS AN4-10A, ITEM 32 WAS AN960-416, ITEM 33 WAS MS21042-4, ITEM 43 WAS 0.75 LG. SHEETS 2 - 5 NOTES: FINISH FOR ALL COMPONENTS NOW YELLOW SPRAY PAINT.	AJS	09.10.15
A	NEW ISSUE	AJS	09.05.13
REV.	DESCRIPTION	BY	DATE
DESIGN	DSTOW / AJS	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	JP	DRAWING NO.	REV. C
CHECKED		D3943	SHEET 1 OF 5
MFG. APPR.		TITLE	SCALE
APPROVED		GROSS WEIGHT TOW CRANK ASSY	NTS
DE APPR.	N/A	COPYRIGHT © 2009 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	
DATE	10.01.26		

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

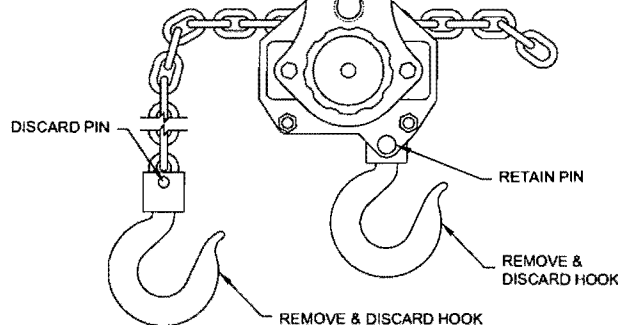
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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NOTE: Date & initial all entries

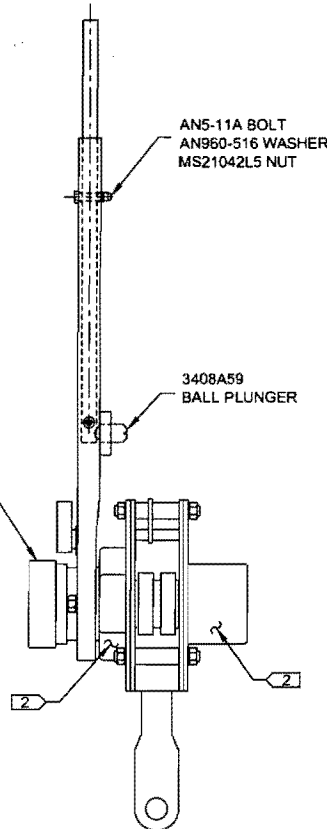
8 7 6 5 4 3 2 1

REMOVE AND RETAIN
RUBBER HAND GRIP



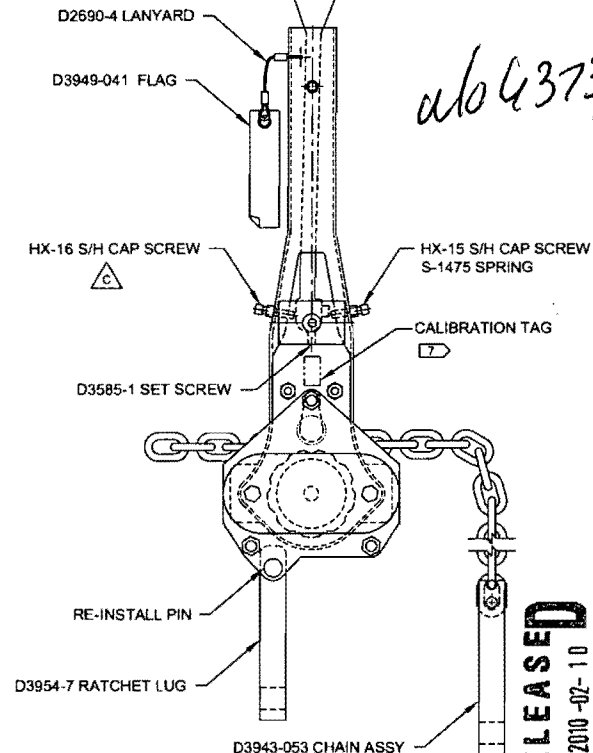
8143919 LEVER CHAIN HOIST
(SHOWN PRIOR TO MODIFICATION)
(CHAIN SHOWN SHORTENED FOR CLARITY)

8143919
LEVER CHAIN HOIST



(CHAIN NOT SHOWN FOR CLARITY)

RE-INSTALL
RUBBER HAND-GRIP
HERE



(CHAIN SHOWN SHORTENED FOR CLARITY)

D3943-041 GROUND HANDLING CRANK ASSEMBLY

NOTES -041:

- 1) MATERIAL: N/A
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3943-041" USING FINE POINT PERMANENT INK MARKER
- 7) CALIBRATION TAG PER DART QSI 008 4.4 (ZN C1-2)

DESIGN	DSTOW / AJS	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	JP	DRAWING NO.	REV. C
CHECKED	JP	D3943	SHEET 2 OF 5
MFG. APPR.	JP	TITLE	SCALE
APPROVED	JP	GROSS WEIGHT TOW CRANK ASSY	NTS
DE APPR.	JP	COPYRIGHT © 2009 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR FOR ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	
DATE	10.01.26		

RELEASED
2010-02-10

8 7 6 5 4 3 2 1

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

D3943-1 HANDLE

2 PL

9.75

2.00

Ø0.31
THRU

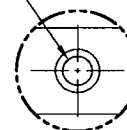
Ø0.12
THRU

0.41

D3943-7 STUD
2 PL

THREAD 1/2-20 UNC-2B
2 PL

THREAD 1/2-20 UNC-2B
THRU



VIEW A-A A5-3
(SCALE 2X) B5-3

2 PL

9.37

A B1-3

A B1-3

D3943-5 PLATE

D3943-051 HANDLE ASSEMBLY

RELEASED
2010-02-10
NH

NOTES -051:

- 1) MATERIAL : N/A
- 2) FINISH: POWDER COAT HYBRID SAFETY YELLOW (4.3.5.12) PER DART QSI 005 4.3
- 3) TOLERANCES: X.XX DIMENSIONS +/- 0.06 ALL OTHERS
PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: NONE
- 7) MASK ALL THREADS PRIOR TO POWDER COATING

DESIGN	DSTOW / AJS	DART AEROSPACE LTD	
DRAWN	97	HAWKESBURY, ONTARIO, CANADA	
CHECKED	JS	DRAWING NO.	REV. C
MFG. APPR.		D3943	SHEET 3 OF 5
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W/O:		WORK ORDER CHANGES					
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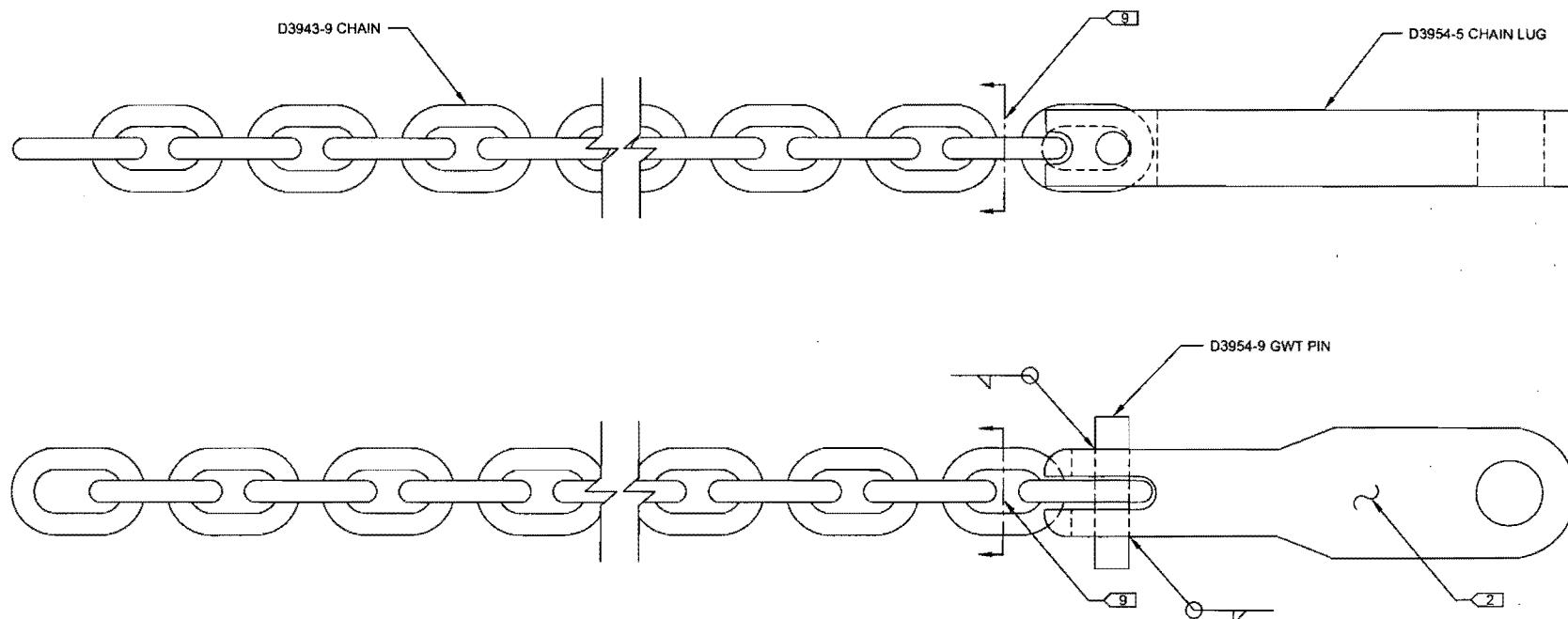
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

u/b 43737



D3943-053 CHAIN ASSEMBLY

NOTES -053:

- 1) MATERIAL: N/A
- 2) FINISH: POWDER COAT HYBRID SAFETY YELLOW (4.3.5.12) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: N/A
- 8) WELD PER QSI 004
- 9) MASK CHAIN FROM THIS POINT ON PRIOR TO POWDER COATING

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2010-02-10

DESIGN	DSTOW/AJS	DART AEROSPACE LTD	
DRAWN	91	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. C
MFG. APPR.		D3943	SHEET 4 OF 5
APPROVED		TITLE	SCALE
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Dart Aerospace Ltd

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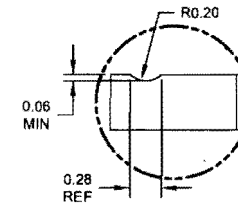
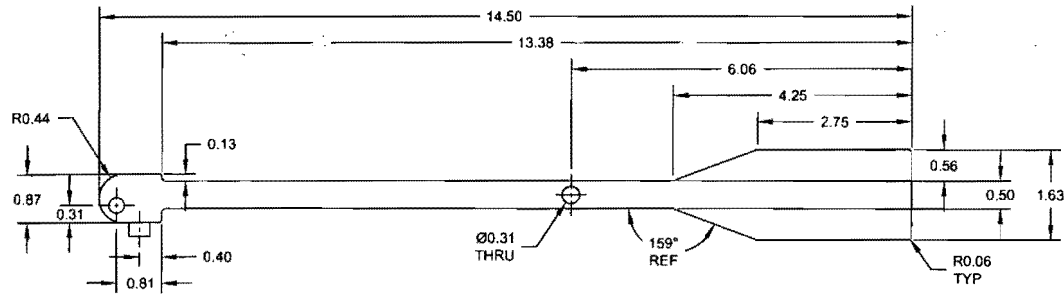
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

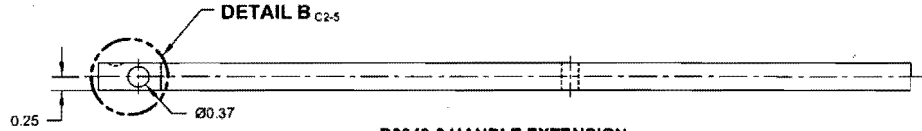
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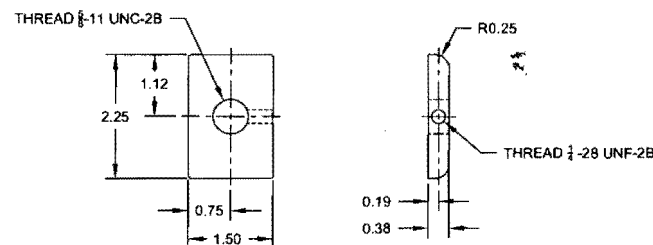
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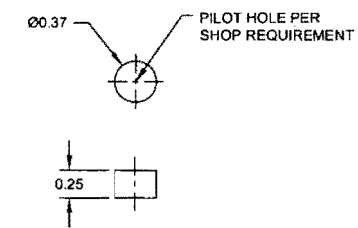
DETAIL B-B C7-5
(SIMPLE DETAIL)
(SCALE 2X)



D3943-3 HANDLE EXTENSION



D3943-5 PLATE



D3943-7 STUD
(SCALE 2X)

- NOTES -11/-13:**
 1) MATERIAL -3 & -5: MILD STEEL, SHEET
 AISI 1010-1025 OR ASTM A36/A366/A1008
 OR CSA G40-21, 38W/44W/50W/60W/70W
 REF DART SPEC M1010-S
 OR: MILD STEEL, BAR
 AISI 1010-1025 OR ASTM A36/A366/A569/A570
 OR CSA G40-21, 38W/44W/50W/60W/70W
 REF DART SPEC M1010-B
 -7: MILD STEEL, ROUND BAR
 AISI 1018-1025
 PER MIL-S-7097
 REF DART SPEC M1018-R

- 2) FINISH -3: POWDER COAT HYBRID SAFETY YELLOW (4.3.5.12) PER DART QSI 005 4.3
 -5 & -7: NONE
 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
 6) IDENTIFICATION: NONE

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 2010-02-10

DESIGN	DSTOW / AJS	DART AEROSPACE LTD	
DRAWN	99	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. C
MFG. APPR.		D3943	SHEET 5 OF 5
APPROVED		TITLE	SCALE
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8 7 6 5 4 3 2 1

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